



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,253	04/01/2004	Julio A. Abusleme	108910-00129	6955

4372 7590 11/17/2004

ARENT FOX KINTNER PLOTKIN & KAHN
1050 CONNECTICUT AVENUE, N.W.
SUITE 400
WASHINGTON, DC 20036

EXAMINER

ZEMEL, IRINA SOPHIA

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/814,253	ABUSLEME ET AL.	
	Examiner	Art Unit	
	Irina S. Zemel	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim objected to because of the following informalities: Claim 3 recites the following limitation: "selected between the tetrafluoroethylene (TFE) homopolymer or its copolymers". While the claims is not per se indefinite, the claim language "between" is not appropriate for recitation components of Markush a group. Appropriate correction is required.

Claim 2 recites "under fine powder" as one of the characteristics of the claimed nucleating agent. It appears that applicants meant to recite "in the form of a fine powder." Appropriate correction is required.

Applicants should note that while each of the claims 1, 6, 8, 9 and 12 all contain a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim), the claims are not indefinite per-se. However in each case, the narrower ranges are not considered claim limiting, i.e., for the purposes of art rejection, the claim limitation is met if the prior art discloses a corresponding element that falls within the broader range only. It is suggested that applicants re-write claims containing broader/narrower limitations to exclude the narrower ranges and, if desirable, add additional dependent claims directed to the narrower ranges.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the TFE" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim. TFE is not defined in the base claim 1 from which amended claim 5 depends.

Claim 11 recites limitation "obtainable" in the second line of the claim. The claim is indefinite if undue experimentation is involved to determine boundaries of protection. This rationale is applicable to polymer "obtainable" by a stated process because any variation in any parameter within the scope of the claimed process would change the polymer produced. One who made or used a polymer made by a process other than the process cited in the claim would have to produce a polymer using all possible parameters within the scope of the claim, and then extensively analyze each product to determine if this polymer was obtainable by a process within the scope of the claimed process. See *Ex parte Tanksley*, 26 USPQ 2d 1389.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

—(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8, 9 –11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4650815 to Namba et al (hereinafter "Namba").

Namba discloses foamable compositions comprising a fluoropolymer and a heat resistant (high melting or decomposition point) nucleating agent. Among suitable fluoropolymers, homopolymers of chlorotrifluoroethylene (CTFE) are explicitly listed in column 2, lines 53-55, as well as copolymers of CTFE with tetrafluoroethylene (TFE). Thus, the reference anticipates limitations of claims 1, 8 and 9 with respect to the component A of the claimed composition. The reference further expressly teaches addition of various nucleating agents such as inorganic nucleating agents listed in column 4, lines 5-20 in the amounts of up to 10 parts by weight per 100 parts of fluorinated polymer, and teaches that the size of the nucleating agents is up to (i.e., lower or inclusive of) 50 μ m. Thus, the limitations of claims 1, 2, and 6 with respect of the component B is fully anticipated by the reference. The reference further teaches a process for preparing foamed articles by extrusion of the foamable compositions, as per claims 10 and 11. See illustrative examples 1-8 and column 6, lines 55-60. Among suitable applications for the foamed product, cable and wire coatings are explicitly listed in column 5, lines 61-65, thus fully anticipating limitation of claim 13.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Namba.

The disclosure of the Namba reference is discussed above. The reference does not expressly states the void % and the cell size of the foamed products disclosed in the reference. However, it is believed that the void % of the disclosed articles meets the limitation of claims 12. This belief is based on the reported expansion ratio of the foams, which is as high as 75 %. See column 6, lines 22-26. As for the cell size, the reference states that it is the object of the invention to obtain foams with "fine uniformed closed " cells as opposed to "coarse cellular structure". See column 1 lines 47-56. Fine cell structure is recognized in the art as structure having cell size in tenth of um, which corresponds to the limitation of claim 12. It is further believed that the foams disclosed in illustrative examples exhibit the claimed properties (cell size) in view of the nature and amounts of the nucleating and blowing agents and the foaming conditions exemplified in examples 1-8. The burden is shifted to the applicants to provide factual evidence to the contrary.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,403,524 to Burger et al (hereinafter "Burger") in combination with Namba pr Polymer Technology Dictionary (hereinafter "Dictionary").

Burger discloses foamable compositions comprising polytetrafluroethylene (PTFE) and degraded low molecular weight PTFE obtained by irradiation PTFE with

gamma radiation as foaming nucleation component. The irradiated PTFE inherently exhibits the claimed melting temperature (in excess of 250 C), has particle size of less than 20 um (see column 3, lines 50-51), and has a molecular weight of less than 10x6 (see column 2, lines 13-14). The amount of radiation degraded PTFE is from 1 to 50 % of the compositions (see column 3, lines 42-46). The reference further discloses extrusion processing of the foamed material into an article. See, for example, illustrative examples. The average pore diameter of the resulting foams is 0.8 um as per examples in table 1. It is believed from the expansions ration of the extruded and expanded articles, that the void5 of the disclosed articles fully correspond to the limitations of claim 12. The burden is shifted to the applicants to provide factual evidence to the contrary.

With respect to the limitations of claim 5, as noted above, the TFE limitation has no antecedent basis in the base claim 1, and it is not clear which component the claim limitation defines. Assuming that claim 5 was supposed to depend on claim 3, the limitations recited in claim 5, while defining TFE copolymers, does not limit the composition to such copolymers because it does not positively claim that the nucleating agent is a TFE copolymer. Therefore, the limitations of claim 5 are still met by TFE homopolymer nucleating agent recited in claim 3.

The difference between the disclosure of Burger and the claimed invention is that the reference discloses polytetrafluoroethylene (PTFE) instead of polychlorotrifluoroethylene (PCTFE) homo- or co-polymers as claimed in the instant invention. Substitution of PTFE with PCTFE or its copolymers with TFE would have

been obvious in view of teachings by Namba who explicitly disclose functional equivalence of PTFE and PCTFE polymers for similar uses (shaped foamed articles) with reasonable expectation of adequate results absent showing of unexpected results that can be clearly attributed to the choice of the polymer. Furthermore, it is well known in the art that different fluorinated polyolefins exhibit different properties, such as melt processability, chemical resistance, impact and tensile strength, etc. Therefore, choosing a specific fluorinated polyolefin would have been obvious to achieve final compositions with desired properties based on the properties of the underlying fluorinated polyolefin. This fact is supported, for example, by Dictionary, which expressly states, that PCTFE has, for example, superior tensile strength as compared to PTFE. Therefore, substitution of PTFE disclosed in Burger with PCTFE or its copolymers would have been obvious to obtain resulting compositions with different properties, such as higher tensile strength. The inventions as claimed, thus, would have been obvious from the combined teachings of the above cited references.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mehan (US 5,468,782) discloses ECTFE polymers with PTFE particles dispersed in ECTFE polymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Irina S. Zemel
Examiner
Art Unit 1711

ISZ